



METROPOLITAN
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COMMISSION

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3

Memorandum

TO: Administration Committee

DATE: December 7, 2011

FR: Executive Director

W. I.

RE: Contract Amendment: UrbanSim Visualization Tool for Plan Bay Area: The Regents of the University of California (\$400,000)

Action Requested

MTC staff requests the Committee's approval to authorize a contract amendment of \$400,000 for consultant assistance to further develop and integrate two urban simulation land use modeling tools – UrbanSim, which is an economic and land use model for planning and analysis of urban development, and UrbanVision, a 3D visualization tool for showcasing alternative planning scenarios at regional and neighborhood scales for Plan Bay Area.

Past Committee actions include: (1) a November 2010 approval of the initial contract for \$600,000 to University of California to develop the UrbanVision visualization tool; and (2) an April 2011 contract amendment to add \$150,000 to integrate UrbanVision with a beta-test version of the UrbanSim land use model that ABAG staff was testing. In addition, the MTC Executive Director authorized a contract amendment of \$100,000 to further define UrbanSim's zoning editor and user interface functions. The total contract to date is \$850,000.

UrbanVision

Over the past year, MTC and ABAG staffs have been working with Dr. Paul Waddell of the University of California, to develop UrbanVision, a cutting-edge visualization software application to support Plan Bay Area's outreach process planned for January 2012. UrbanVision enables stakeholders to visualize, in 3D, the land use development patterns of the five alternative scenarios developed for Plan Bay Area. Our motivation for developing this tool was threefold, as follows:

- Engage local planners, elected officials, stakeholders and the public in a discussion about land-use and transportation policy choices and how those choices affect the region's future development patterns;
- Show the outcomes of varying land use policies to technical and non-technical stakeholders through visual representation of land use development, rather than relying solely on maps, data tables and charts that are often hard to digest and understand; and
- Provide local planners with a tool that they can use when updating General Plans or preparing specific plans and station area plans.

Dr. Waddell conducted an initial user testing session on September 16, 2011 to solicit technical input on UrbanVision, followed by four demos/workshops with local planners around the region from late October through mid-November 2011. These workshops provided an early opportunity for local planners to become familiar with UrbanVision's functionalities and outputs and to offer input to help us further refine the tool prior to its debut at the public workshops in January 2012.

MTC and ABAG staffs propose to use the feedback from local planning staff to build upon the work completed to date on these simulation tools and advance their development and application into the next planning phase of the Plan Bay Area process.

Under the proposed contract amendment, Dr. Waddell will carry out a number of tasks, including complete the development of UrbanVision and UrbanSim, finalize base year and future year land use conditions, validate the land use model, and conduct model runs of the preferred scenario and EIR alternatives. MTC and ABAG staffs will be using these tools to help us to define, model and analyze the preferred scenario and EIR alternatives. More specifically, we intend to use UrbanSim to test the effects of various land use policies on development patterns. As we are preparing these analyses, we will be identifying ways to meet two of several SB 375 analysis requirements – (a) to identify the general location of uses, residential densities, and building intensities within the region, and (b) to identify areas within the region sufficient to house all the population of the region. We will also rely on these tools to conduct the land use analysis in the EIR, particularly in the areas of assessing cumulative land use impacts and growth-inducing impacts of the Project alternative and EIR alternatives. To the extent possible, we aim to present the land use analysis in a way that provides opportunities and means for local agencies to take advantage of CEQA streamlining of qualifying residential/mixed use and transit priority projects (TPPs) as defined in SB 375.

To ensure an inclusive and transparent planning process, we will continue to engage local planners to help us with the technical review of the land use data and policy assumptions. We plan to conduct our model runs and analysis on the preferred scenario in February 2012, and have results ready for review and discussion by the Commission meeting in March 2012. These tools will be used through the environmental assessment and public outreach prior to final plan adoption, which is slated for spring 2013.

Recommendation

Staff recommends that this Committee authorize the Executive Director or his designated representative to negotiate and enter into a contract amendment with The Regents of the University of California in an amount not to exceed \$400,000 to further develop UrbanVision and UrbanSim for planning, analysis, and outreach purposes for Plan Bay Area.

At your December committee meeting, Dr. Waddell will further explain and provide a demo of the UrbanVision tool.



Steve Heminger

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REQUEST FOR COMMITTEE APPROVAL

Summary of Proposed Consultant Contract

Work Item No.: 1412

Consultant: The Regents of the University of California
Berkeley, California
in association with Purdue University, West Lafayette, Indiana

Work Project Title: UrbanSim Visualization Application for the Sustainable Communities Strategy/Regional Transportation Plan (SCS/RTP)

Purpose of Project: Assist with the integration of ABAG's economic and land use model to facilitate the development of an open source software system for visualizing alternative land use and transportation scenarios for the nine-county Bay Area region.

Brief Scope of Work:

- Complete the development of UrbanVision and UrbanSim simulation models.
- Complete a model validation of UrbanSim, including finalizing base year and future year land use conditions.
- Define inputs for the preferred scenario and EIR alternatives.
- Conduct model runs and analysis of the preferred scenario and EIR alternatives.
- Assist in the preparation of the land use analysis of the preferred scenario and EIR alternatives.
- Assist with local engagement for the preferred scenario and EIR alternatives.
- Perform supplemental technical analysis and document, as needed, and participate in outreach activities, as needed.

Project Cost Not to Exceed: \$400,000
Contract to Date Prior to this Action: \$850,000
Total approved contract amount after today's action: \$1,250,000

Funding Source: CMAQ and General Fund

Fiscal Impact: Funds are included in the FY 2011-12 agency budget.

Motion by Committee: That the Executive Director or his designee is authorized to negotiate and enter into a contract amendment with University of California to deliver the UrbanSim Visualization Application and the Chief Financial Officer is directed to set aside funds up to \$400,000 for such amendment.

Administration Committee:

Dave Cortese, Chair

Approved: Date: December 14, 2011